

WHAT IS CLAIMED IS:

1. A mobile communication system including
a plurality of base stations, a control station
5 which controls said base stations, and switching
apparatuses each of which corresponds to said base
station or said control station, wherein said
switching apparatuses are connected with each other
by a wireless circuit or an optical fiber circuit,
10 said switching apparatus corresponding to a base
station or a control station in a sending side
comprising:

a modulation part for modulating a first
signal into a second signal of a unified
15 transmission form;

a first switching part for switching an
output destination of said second signal from said
modulation part according to a sending destination
of said second signal; and

20 a wireless signal transmission part for
sending said second signal from said first switching
part to a base station or a control station in a
receiving side via a wireless circuit;

an optical signal transmission part for
25 sending said second signal from said first switching
part to a base station or a control station in a
receiving side via an optical fiber circuit,

said switching apparatus corresponding to
a base station or a control station in a receiving
30 side comprising:

a wireless signal receiving part for
receiving a third signal via a wireless circuit;

an optical signal receiving part for
receiving a third signal via an optical fiber
35 circuit; and

a demodulation part for demodulating said
third signal.

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5 2. The mobile communication system as
claimed in claim 1, said switching apparatus
corresponding to a base station or a control station
in a sending side further comprising:

10 a frequency control part for controlling a
frequency of said second signal output from said
modulation part according to said sending
destination;

15 wherein said first switching part switches
said output destination according to said frequency
of said second signal.

20 3. The mobile communication system as
claimed in claim 1, said switching apparatus
corresponding to a base station or a control station
in a sending side further comprising:

25 a variable directional antenna for sending
said second signal from said wireless signal
transmission part to a destination via said wireless
circuit; and

30 a beam forming part for directing said
variable directional antenna to an antenna of a base
station or a control station in a receiving side
according to said frequency of said second signal.

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4. The mobile communication system as
claimed in claim 2, said switching apparatus

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corresponding to a base station or a control station in a sending side further comprising:

a variable directional antenna for sending said second signal from said wireless signal transmission part to a destination via said wireless circuit; and

a beam forming part for directing said variable directional antenna to an antenna of a base station or a control station in a receiving side according to said frequency of said second signal.

15 5. The mobile communication system as claimed in claim 1, said switching apparatus corresponding to a base station or a control station in a receiving side further comprising a second switching part for switching an output destination of said third signal to a demodulation part.

25 6. The mobile communication system as claimed in claim 5, wherein said second switching part switches said output destination of said third signal according to a frequency of said third signal.

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35 7. The mobile communication system as claimed in claim 1, said switching apparatus corresponding to a base station or a control station in a receiving side further comprising a selection part for selecting a fourth signal and outputting

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said fourth signal to said demodulation part when a plurality of signals are received.

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8. The mobile communication system as claimed in claim 1, said switching apparatus corresponding to a base station or a control station
10 in a receiving side further comprising a frequency control part for controlling said demodulation part such that said demodulation part can demodulate said third signal according to a frequency of said third signal.

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9. The mobile communication system as claimed in claim 1, said switching apparatus
20 corresponding to a base station or a control station in a receiving side further comprising:

a variable directional antenna for receiving said third signal from said wireless
25 circuit and outputting said third signal to said wireless signal receiving part;

a beam forming part for directing said variable directional antenna to an antenna of a base station or a control apparatus in a sending side.

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10. The mobile communication system as claimed in claim 9, wherein said beam forming part
35 directs said variable directional antenna to an antenna according to a frequency of said third

10004885 120701

signal.

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11. A switching apparatus in a mobile communication system including a plurality of base stations and a control station which controls said base stations, each of said base stations and said control station having said switching apparatus, said switching apparatus being connected to another switching apparatus via a wireless circuit or an optical fiber circuit, said switching apparatus comprising:

15 a modulation part for modulating a first signal into a second signal of a unified transmission form;

a first switching part for switching an output destination of said second signal from said modulation part according to a sending destination of said second signal; and

20 a wireless signal transmission part for sending said second signal from said first switching part to a base station or a control station in a receiving side via a wireless circuit; and

an optical signal transmission part for sending said second signal from said first switching part to a base station or a control station in a receiving side via an optical fiber circuit.

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12. The switching apparatus as claimed in claim 11, further comprising:

35 a frequency control part for controlling a frequency of said second signal output from said

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modulation part according to said sending destination;

wherein said first switching part switches said output destination according to said frequency
5 of said second signal.

10 13. The switching apparatus as claimed in claim 11, further comprising:

a variable directional antenna for sending said second signal from said wireless signal transmission part to a destination via said wireless
15 circuit; and

a beam forming part for directing said variable directional antenna to an antenna of a base station or a control station in a receiving side.

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14. The switching apparatus as claimed in claim 12, further comprising:

25 a variable directional antenna for sending said second signal from said wireless signal transmission part to a destination via said wireless circuit; and

30 a beam forming part for directing said variable directional antenna to an antenna of a base station or a control station in a receiving side according to said frequency of said second signal.

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15. A switching apparatus in a mobile

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communication system including a plurality of base stations and a control station which controls said base stations, each of said base stations and said control station having said switching apparatus, said switching apparatus being connected to another switching apparatus via a wireless circuit or an optical fiber circuit, said switching apparatus comprising:

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- 10 a wireless signal receiving part for receiving a first signal via a wireless circuit; an optical signal receiving part for receiving a first signal via an optical fiber circuit; and
- 15 a demodulation part for demodulating said first signal.

- 20 16. The switching apparatus as claimed in claim 15, further comprising a switching part for switching an output destination of said first signal to a demodulation part.

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- 30 17. The switching apparatus as claimed in claim 16, wherein said switching part switches said output destination of said first signal according to a frequency of said first signal.

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18. The switching apparatus as claimed in claim 15, further comprising a selection part for

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selecting a second signal and outputting said second signal to said demodulation part when a plurality of signals are received.

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19. The switching apparatus as claimed in claim 15, further comprising a frequency control
10 part for controlling said demodulation part such that said demodulation part can demodulate said first signal according to a frequency of said first signal.

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20. The switching apparatus as claimed in claim 15, further comprising:

20 a variable directional antenna for receiving said first signal from said wireless circuit and outputting said first signal to said wireless signal receiving part;

25 a beam forming part for directing said variable directional antenna to an antenna of a base station or a control apparatus in a sending side.

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21. The switching apparatus as claimed in claim 20, wherein said beam forming part directs said variable directional antenna to an antenna according to a frequency of said first signal.

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